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ABSTRACT

In this study of prominent characteristics of parenting in the United States, France, and Japan, 72 mother-infant dyads were examined. The study focused on three prominent interactive domains of visual and vocal exchange between mother and baby (nurturing, social exchange, and didactic stimulation), examining their frequency of occurrence and patterns of covariation. Findings revealed significant main effects of culture, with American mothers showing significantly higher rates of object stimulation than French or Japanese mothers. American and Japanese mothers showed equal rates of social stimulation, while American mothers engaged in more social stimulation than French mothers. Maternal behaviors appeared to be largely independent of coherence among parenting behaviors. The data indicated that mothers from the different cultures differed most in the degree to which they stimulated, spoke to, and responded to their infants vis-a-vis the object and social worlds. Mothers were most similar in terms of the degree to which they engaged their infants in tactile kinesthetic play and responded in a nurturing or an imitative manner. (Contains 5 pages of references.) (SH)

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Parenting in Cross–cultural Perspective: The United States, France, and Japan

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INTRODUCTION

Parenting manifestly influences the course and outcome of children's cognitive and communicative achievements as well as their social and emotional adjustment. Further, "culture" presumably shapes systematic parenting practices. In this context, we compared and contrasted prominent characteristics of parenting in three different societies, the United States, France, and Japan. As part of parallel longitudinal studies, we have examined naturalistic interactions in mother–infant dyads in three comparable international urban locales, New York City, Paris, and Tokyo. Our observations revealed patterns of culture–specific parenting as well as some culture–general processes. We first review relevant aspects of maternal behaviors and provide a rationale for our West—West—East comparison, and then we report and comment on specific findings.

CULTURAL SIMILARITIES AND DIFFERENCES IN PARENTING

Parenting Activities

Mother–infant interaction is dynamic and transactional in the sense that one member of the dyad is always influencing the other (e.g., Sameroff, 1983; Stern, 1985). In this study of parenting, we report global estimates of activities of one member of the dyad, the mother, in terms of how often mothers engaged in a selected set of parenting activities. In addition, we focus particularly on responsive behaviors in mothers, viz. those actions of mothers that had identifiable, immediate, and direct antecedents in the behavior of their infants. General maternal activity is multiply determined; maternal responsiveness is specifiable to infant behavior.

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Mothers act with and respond to their infants in many different ways. Certain activities predominate in the maternal repertoire, however, and in infancy three basic categories of maternal activities include nurturing, social exchange, and didactic stimulation (Bornstein, 1989a). This study focused on these three prominent interactive domains of visual and vocal exchange between mother and baby, examining their frequency of occurrence and patterns of covariation in three distinct cultures.

Mothers' activities harbor real consequences in the lives of their children. Whether the infants are normal, healthy, and term or at-risk preterms, whether they are lower, middle, or upper class, and even across diverse cultures, certain parenting activities have been documented to exert vigorous beneficial effects over major domains of development in children (e.g., Azuma, 1986; Beckwith & Cohen, 1989; Bee, Barnard, Eyres, Gray, Hammond, Spietz, Snyder, & Clark, 1982; Belsky, Gilstrap, & Rovine, 1984; Bornstein, 1985, 1989a, b; Bornstein, Miyake, & Tamis-LeMonda, 1985–1986; Bornstein & Tamis-LeMonda, 1990; Bradley, 1989; Bradley, Caldwell, & Rock, 1988; Carew, 1980; Goldberg, Lojkasek, Gartner, & Corter, 1989; Gottfried, 1984; Olson, Bates, & Bayles, 1984; Sigman, Neumann, Carter, Cattle, D'Sousa, & Bwibo, 1988; Tamis-LeMonda & Bornstein, 1989; Wachs & Gruen, 1982; Yarrow, Rubenstein, & Pedersen, 1975). Their concurrent and predictive validity indicate the significance of studying such maternal activities in child development. Of course, some other maternal characteristic, such as intelligence or socioeconomic status, could share variance with parental activities, and that variance could also be shared predictively with one or more developmental outcomes in children. However, the research studies cited above indicate that variance in specific maternal behaviors uniquely predicts a range of specific developmental outcomes in children. Further, the arrow of socialization is not unidirectional, mother ⇄ baby; infants in their own way also influence mother, infant → mother, and contribute to their own development, infant → mother → infant (Bell & Harper, 1977; Bornstein & Tamis-LeMonda, 1990; Lerner, 1989; Lewis & Rosenblum, 1974). In this study, as stated, we focussed on maternal behaviors directed toward infants.

Hypotheses about Parenting

At the most general level, a mother's behavior with her child may be considered a function of herself, her child, the situation, and interactions that obtain among these factors. For example, while nurturant diapering is often initiated by the demands of the child, the speed with which a mother responds to her infant's distress, the difficulty of the process for mother and infant, and the type of diapers used are likely influenced by multiple factors. The three main factors are themselves, in turn, influenced by multiple determinants. For example, a mother's behavior is a function of genetic inheritance, acculturation, SES, and so forth. Thus, a fruitful approach to understanding mother–infant interaction is to manipulate—in the most general sense of the word, since experimental manipulation of these factors is often impossible—variables that are thought to influence behaviors of interest while

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holding other possible influences constant. In the research reported here, our chief interest is in the effects of culture on parenting, and we have attempted to "manipulate" culture, holding other significant factors constant. In addition, we wished to examine two more specific hypotheses about parenting. Hypothesis 1 concerns itself with the frequency of certain basic parenting activities in different cultures, and Hypothesis 2 concerns itself with coherence among parenting activities across cultures. By comparing cultures, we aimed to find which, and to what degree, maternal behaviors vary and covary.

Hypothesis 1. Cross-cultural differences in parenting. New York City, Paris, and Tokyo represent an especially appealing and potentially informative comparative base on which to investigate specific as well as universal aspects of childrearing. These three locales are much alike in terms of modernity, urbanity, economics, ecology, and climate, and therefore it is possible to obtain roughly equivalent samples from the three. In the cultures of all three, mother is also normally the primary caregiver in the family setting, and parents share many of the same child-centered goals, notably educational achievement and economic security. However, substantial differences exist among the three cultures represented by these places in terms of history, beliefs, and values associated with childrearing. On this basis, mothers in these places are thought to have established different parenting styles in order to attain different central cultural goals. The American mother is believed to promote autonomy in her infant and to organize her interactions so as to foster physical and verbal independence in the child; the French mother is believed to share some of these characteristics, but also to see security and emotional support as natural and achievement stimulation as secondary; the Japanese mother is believed to see her infant as an extension of herself and to organize her interactions so as to consolidate and strengthen a mutual dependence between herself and her infant (see Befu, 1986; Caudill, 1973; Chen & Miyake, 1986; Clancy, 1986; Clarke, 1985; Dion & Pêcheux, 1989; Doi, 1973; Dolto, 1979; Fogel, Toda, & Kawai, 1988; Gramont, 1969; Hess, Azuma, Kashiwagi, Dickson, Nagano, Holloway, Miyake, Price, Hatano, & McDevitt, 1986; Hoffman, 1963; Kojima, 1986; Lamb & Bornstein, 1987; Maranda, 1974; Métraux & Mead, 1954; Miyake, Chen, & Campos, 1985; Morsbach, 1980; Triandis, 1989; Weisz, Rothbaum, & Blackburn, 1984).

On the basis of these reported differences in parental beliefs, we expected that mothers in these three cultures might differ in actual parenting practices. In specific, we expected that American mothers would favor active didactic stimulation of infant attention to the object world, and French and Japanese mothers social stimulation to themselves as well as tactile kinesthetic play. We also thought that French and Japanese mothers would favor use of the infant register in speaking to baby, whereas American mothers would favor using adult conversational tones. In terms of mothers' responses to infant signals, across this limited variety of cultural settings, mothers might reasonably be expected not to differ substantially in nurturant responsiveness, as for example in responding to infant distress. Indeed, responsiveness to distress may be universal and "infant driven" (Bowlby, 1969). The same might be true for responsiveness to infant nondistress vocalizations

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because of the significant and perhaps universal role of imitating, chorusing, and turn-taking in the early development of this form of dyadic interaction (e.g., Papoušek, Papoušek, & Bornstein, 1985; Stern, 1985). However, mothers in the different cultures might be expected to vary with respect to more discretionary forms of responsiveness vis-à-vis the object and social worlds. So, for example, we expected American mothers to emphasize object responsiveness by incorporating the environment outside the dyad into their interactions, and French and Japanese mothers to emphasize responsiveness oriented within the dyad.

Hypothesis 2. Coherence in parenting. Mothers naturally engage in a dynamic range of activities with their infants. Nevertheless, many theorists have conceptualized maternal caretaking as adhering to only one or a small number of dimensions, variously described as 'good,' 'sensitive,' or 'warm' (see Brody, 1956; MacPhee, Ramey, & Yeates, 1984; Rohner, 1985; Rothbaum, 1986). This view builds on the infrequently-tested assumption that parenting reflects a personality trait or traits, and predicts that parents behave in consistent ways across domains of interaction, time, and context. Such coherence among selected parenting activities implies consistency in rank-order status. Alternatively, frequently performed activities may not be linked psychologically, or individuals may vary in the pattern of their activities such that there is no unified organization to parenting. Finally, whether or not coherence in behavior patterning emerges depends in part on the activities chosen for study. We expected covariation among selected activities, and independence among others.

On the basis of prior study in the United States and United Kingdom (e.g., Bornstein & Tamis-LeMonda, 1990; Dunn & Richards, 1977), and the view that social and didactic forms of parental interaction are not necessarily coupled (Bornstein, 1989a), we expected that maternal encouragement of attention to the environment and to self would not covary, just as speech in the infant register and in adult conversational tones would be independent. On similar grounds, we expected that those mothers who more often engaged in tactile kinesthetic play would also encourage their infants' attention to themselves more often. Given the role that 'parentese' is thought to play in the recruitment of infant attention (e.g., D'Odorico & Franco, 1985; Papoušek et al., 1985), we hypothesized that speech in the infant register would covary with encouraging attention to objects and with encouraging attention to self in all three cultures. With respect to responsive parenting specifically, we expected (as above) that social and object responsiveness would be independent in different cultures, but that object responsiveness would covary with imitation of infant nondistress vocalization as both often share a language orientation.

Hypothesizing about culture and parenting. The implication of culture as an explanatory variable with regard to mean differences (Hypothesis 1) is different from examination of covariation with regard to coherence (Hypothesis 2). First, the implication of culture in mean differences is often causal (e.g., "A mother engages in active stimulation *because* she is American."). Hypothesizing that behaviors covary is another way of saying that the variance in one behavior is explained by the variance in the other behavior. In other words, mother behaviors

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can be used as culture is used—to explain mother behavior. The implication of a covariation structure, therefore, is often that another underlying latent structure is the cause of the covariation (e.g., "She nurses that infant *and* diapers him *because* she is his mother.").

Second, when culture is thought to be an influence, the implication is usually that it is a learned influence, assuming a more or less equivalent genetic pool (exceptions exist, of course; see, for example, Shand & Kosawa, 1985a, b). Thus, an infant born to American parents and raised in France by a French family can be expected to be as French as his step–siblings. However, covariation of behavior within a certain context (e.g., mothering, social situation) implies a "natural order." For example, an extraverted person can be expected to display a high frequency of many different social behaviors, and even if there is no heritable component to extraversion the same covariation pattern would be expected. So, for example, an extravert who converted to an introvert would now be expected to display uniformly low frequencies of social behavior. In other words, a constellation of behaviors labeled "social" ought to covary independent of the individuals selected for study.

THE UNITED STATES, FRANCE, AND JAPAN

Cultural generalization is implicit in most psychological reportage, even in spite of the monocultural character of most psychological investigation (e.g., Kennedy, Scheirer, & Rogers, 1984; Moghaddam, 1987; Triandis, 1980). Cross–cultural developmental comparisons are recommended by empiricists and theoreticians alike to meet the test of limits on cultural generalization, and they have long been recognized as requisite to a complete and accurate understanding of development (see Berry, 1983; Bornstein, 1980, 1989b; Brislin, 1983; Bruner, 1989; Campbell, 1964; Kessen, 1983; Nugent, Lester, & Brazelton, 1989; Piaget, 1966/1974; Russell, 1984; Sexton & Misiak, 1984; Super, 1981; Whiting, 1981).

American, French, and Japanese cultures constitute an especially attractive contrastive set for the several reasons reviewed earlier. Further, on more purely empirical grounds, the triad of contrasts undertaken in this study, including two Western and one Eastern culture, creates the possibility of evaluating generalities of childrearing patterns across a controlled diversity of culture. Culture has many facets, including economy and modernity, education and urbanity, and so forth (see Jahoda, 1980; Triandis, 1989). Cross–cultural research is often geared to evaluate the distinctiveness of some phenomenon in a setting that is exotic or unique; frequently, it is undertaken to compare samples from contrastive settings in order to maximize the potential of uncovering differences. However, such a strategy potentially confounds childrearing aspects of culture with other factors. For our research, we selected three samples that are similar on key variables (see below), given the constraint that they come from three still essentially distinct cultures. Thus, any potential differences ought to be ascribable to cultural factors.

Testing psychological theory provides additional motivation to undertake cross–cultural comparisons. Childrearing patterns are believed to differ between collec-

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tivist and individualist cultures in developmentally meaningful ways. Parents in collectivist cultures (as can be found in Japan) tend to emphasize obedient, reliable, and proper behavior in children, whereas parents in individualist cultures (as can be found in the U.S.) tend to emphasize self–reliant, independent, and creative behavior (Kohn, 1987; Triandis, 1989). In the one, children are encouraged to follow rules and conform to norms; in the other, children are allowed a good deal of autonomy and are encouraged to confront and engage in independent exploration of their environment. Our selection of locales nicely contrasts cultural collectivism and individualism (Hofstede, 1980), holding urbanity, complexity, and other global factors constant.

Finally, studies of behavioral similarities and differences in Japanese and American styles of parenting are few (e.g., Bornstein, 1989b; Bornstein et al., 1990a, b; Caudill & Weinstein, 1969; Otaki, Durrett, Richards, Nyquist, & Pennebaker, 1986; Sengoku, Davitz, & Davitz, 1982; Shand & Kosawa, 1985a, b; Ueda, 1985). Direct scientific, and more specifically developmental, comparisons between American and French, and between French and Japanese, are even more rare (see, e.g., Bertrand, 1986; Bornstein, Tamis–LeMonda, Pêcheux, & Rahn, 1991; Darnton, 1984; Dolto, 1955; Gramont, 1969; Hoffman, 1963; Maranda, 1974; Métraux & Mead, 1954; Wolfenstein, 1955).

In overview, some aspects of parenting in the United States, France, and Japan can be expected to be similar, and some different. Moreover, the three cultures provide an important contrastive set in which to explore similarities and differences in coherence among parenting activities. The chief purpose of the present study was, therefore, to evaluate cross–cultural specificity and universality of prominent types of parenting in mothers. We report nomothetic, group–based, across–culture comparisons.

A CULTURAL APPROACH TO PARENTING

Methods of Study

In its general organization, our study followed in the tradition of cross–cultural comparisons of home–based observations of typical ongoing family life (e.g., Bornstein et al., 1990a, b; Bornstein & Tamis–LeMonda, 1990; Caudill & Weinstein, 1969; Kaplan & Dove, 1987; Konner, 1977; Lewis & Ban, 1977; Sigman et al., 1988; Tulkin, 1977). In New York City, Paris, and Tokyo, dyads of infants and mothers were observed interacting as they normally do in the natural setting of the home. The study was designed to provide information about naturally–occurring behaviors of mothers and infants under everyday conditions, and not to standardize the context of data collection beyond what was ecologically valid. Thus, mothers were asked to behave in their usual manner and to disregard the observer's presence insofar as possible; beside the observer, only mother and baby were present; and observations took place at times of the day that were optimal in terms of individual babies being in awake and alert states (see Bornstein, 1985; Bornstein & Tamis–

LeMonda, 1990; Vibbert & Bornstein, 1989). A female observer, always a native of the country, visited the home to conduct the observation, and observations were conducted identically in the three locales. After a period of acclimation, mothers and infants were videotaped for 45 minutes.

In total, 72 primiparous mothers and their 5-month-old infants were observed; they had been recruited from patient populations of private obstetric and pediatric groups and included 24 Caucasian American dyads, 24 Caucasian French, and 24 Oriental Japanese. All infants were term at birth and healthy up to and at the time of the study. Mothers and babies in the American, French, and Japanese samples did not differ on central demographic characteristics: Babies were statistically the same age at the time of the home visits, 163 days on average, and their mothers were statistically the same age, 30 years on average, had statistically similar educational histories, 3.3 years post high school on average, and being primiparous had coextensive childrearing histories. The samples were each balanced for sex of baby and came from comparable middle to upper-middle class households. We focused on parenting in middle infancy because of the intentionality and flexibility in behavioral organization which infants demonstrate at this time (Emde, Gaensbauer, & Harmon, 1976; Wolff, 1984). By this age, the baby's scope of apperception includes both the dyad and the surrounding environment, and infants and their mothers often share the lead in turn-taking exchanges (Belsky et al., 1984; Bornstein & Tamis-LeMonda, 1990; Cohn & Tronick, 1987; Kaye & Fogel, 1980; Stevenson, Ver Hoeve, Roach, & Leavitt, 1986).

Nine maternal behaviors were scored from the videotapes. The codes used to quantify these activities and the procedures used for observation were extensively pretested and were found to transfer readily across cultural settings. Five codes concerned general maternal activity with infants. Two recorded the mother's active engagement and organization of her infant's attention to some property, object, or event in the environment ("object") or to the mother herself ("social"). In the one, a mother might demonstrate, point, name, or describe in order to facilitate the infant's visual and/or tactual exploration of some aspect of the environment; in the other, she might touch, gesture towards, or position her infant with the explicit purpose of engaging the baby to herself. Two codes assessed speech to the infant, either as infant register (characterized by extreme or fluctuating pitch commonly associated with "parentese") or as taking conventional adult conversational tones. One code assessed tactile kinesthetic play, that is maternal bids to nonverbal animated interaction with the infant. These maternal activities were sampled in partial intervals of alternating 30-second observation periods (Seitz, 1988; Suen & Ary, 1989). A behavior was scored one or zero for each interval depending on whether or not it appeared in that interval.

We also coded four types of maternal response having to do, respectively, with the object-world and the social-world (as above), nurturance (where mother engaged in feeding, pacifying, diapering, picking up to comfort), and imitation (specifically of infant vocalizations). To do this, we coded every occurrence of four infant activities—object visual attention, social visual attention, nondistress vocalization, and distress vocalization—and then coded the four maternal response

types as they occurred to each infant act. In addition, we collected data on infant state and the time the infant was in view of mother in order to control for these factors within each dyad.

All maternal and infant behaviors were coded by individuals who were fluent in the language of the society. Coders established adequate reliability on all variables. (For additional details, see Bornstein et al., 1990a, b; Bornstein et al., 1991

The first set of analyses, related to the cross-cultural differences hypothesis, examined variation in the occurrence of maternal activities. Our interest in overall maternal behavior concerned the frequency of activity in the presence of the infant, and so the dependent measures were expressed as frequencies controlling for the amount of time mother was in view of her infant. Mothers' individual responsive behaviors were computed as proportions of total maternal responsive behavior and therefore were independent of overall infant activity (i.e., every mother's proportions summed to one, regardless of the amount of activity displayed by her infant). Our use of proportions in analyzing responsiveness was intended to provide information on the relative likelihood of mothers' different response types. (It is not appropriate to correct individual maternal response types for specific infant behaviors, because any response type can, by design, occur to any infant activity, with the exception of imitation which could occur in response to either vocal distress or nondistress. The propensity for a particular response type to occur to a specific behavior is, in part, what was being examined.) Error within each behavioral comparison was controlled using the Tukey Test.

The second set of analyses, related to the coherence hypothesis, examined relations among different maternal behaviors within cultures and compared these relations across cultures. Because there were nine behaviors, 36 different pairwise correlations were possible. Of these, hypotheses were originally developed for seven. These seven pairwise correlations were classified with respect to whether or not we expected covariation (as described earlier). Fisher z transforms were used to compare correlation coefficients (r) between pairs of cultures; error was controlled using a modified Bonferroni for each of the seven correlations (Keppel, 1982). All correlations were conducted on frequencies rather than proportions. Because proportions are constrained to add to one, their variances are also constrained, leading to restriction of range. Restricting range would have reduced power to test coherence.

Hypothesis 1: Differences

Table 4.1 displays means for mothers' individual parenting activities across the three cultures. For all but one, tactile kinesthetic play, ANCOVAs revealed significant main effects of culture. Subsequent pairwise comparisons showed, as hypothesized, that American mothers displayed significantly higher rates of object stimulation than French or Japanese mothers. American and Japanese mothers showed equal rates of social stimulation, and, contrary to expectations, American mothers engaged in more social stimulation than French mothers. American

TABLE 4.1
Means (Standard Deviations) of Parenting Activities in Three Cultures

	U.S.	France	Japan	p of Overall ANCOVA	Differences p < .05	Effect Size[a]
Stimulation						
Object	16.6 (8.4)	10.0 (5.2)	9.8 (7.2)	.05	US > F,J	.09
Social	10.0 (5.1)	3.4 (2.8)	7.8 (4.7)	.001	US > F	.27
Speech						
Infant register	14.0 (9.4)	6.8 (6.3)	5.2 (4.6)	.005	US > F,J	.15
Conversational tones	19.5 (10.6)	27.6 (8.1)	25.9 (12.4)	.001	F > US	.26
Tactile kinesthetic play	4.3 (2.9)	2.6 (2.6)	3.5 (2.9)	.25	—	—

[a]Proportion of variance explained by culture; computation follows Fliess (1969).

mothers showed the highest rates of speech in the infant register, and French mothers displayed higher rates of conversational speech than American mothers.

Table 4.2 isolates mothers' responsive parenting. Parallel patterns of results were found. Two responsive behaviors, object and social, showed significant culture main effects in the ANOVAs. As predicted, American mothers displayed the highest level of object responsiveness, but American and Japanese mothers displayed higher rates of social responsiveness than French mothers. As predicted also, mothers in the three cultures showed equivalent rates of nurturant and imitative responsiveness.

At least three important points emerge from these data: First, where significant differences in rates occurred, American mothers tended to display the highest levels; the one exception to this was French mothers' high levels of adult conversational speech to infants. Second, as hypothesized, maternal nurturant and vocally

TABLE 4.2
Proportions (Standard Deviations) of Response Types of Parenting in Three Cultures

	U.S.	France	Japan	p of Overall ANCOVA	Differences p < .05	Effect Size[a]
Object	.26 (.20)	.06 (.08)	.14 (.21)	.001	US > F,J	.17
Social	.04 (.06)	.00 (.01)	.06 (.06)	.001	US,J > F	.16
Nurturant	.02 (.03)	.02 (.03)	.03 (.05)	.83	—	—
Imitation	.17 (.16)	.17 (.17)	.19 (.15)	.84	—	—

[a]Proportion of variance explained by culture; computation follows Fliess (1969).

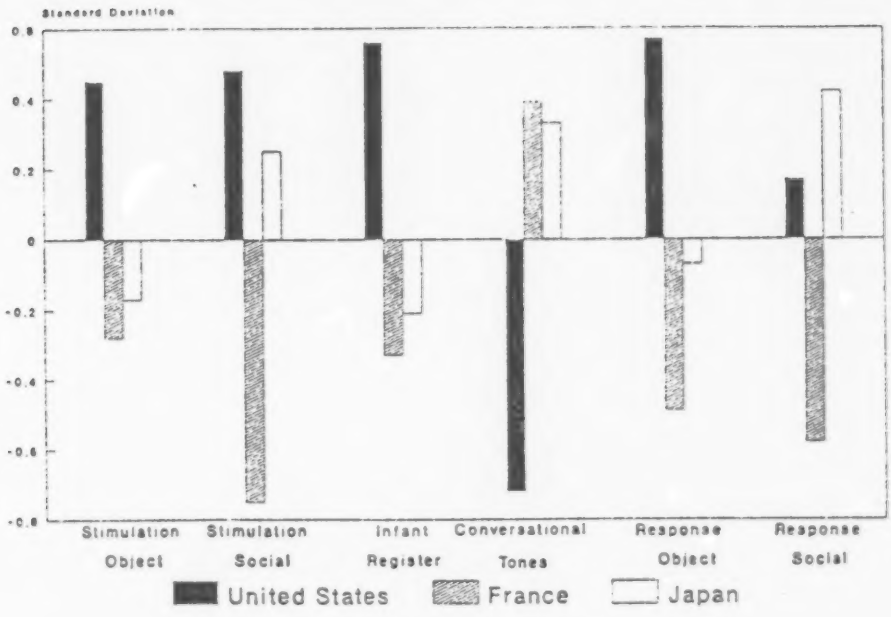

Figure 4.1. Cross-cultural differences in mother behaviors in SD units.

imitative responsiveness tended to occur equally across cultures. That is, these kinds of maternal responses appear less "free to vary" across culture. Finally, the expected differences between American and Japanese mothers with respect to object and social behaviors emerged in one direction only. American mothers displayed higher rates of behaviors than Japanese mothers where the object world was involved; however, no significant differences between American and Japanese mothers emerged where social behaviors were involved.

The last columns in Tables 4.1 and 4.2 provide effect sizes for the cultural differences that were found to be significant. These should be interpreted as proportions of variance explained by the cultural "manipulation." Figure 4.1 recasts mother behaviors for which significant cultural differences occurred in standard deviation units, and so provides more direct estimates of the effect of culture. In order to construct Figure 4.1, data were aggregated across cultures, a combined standard deviation computed, and group differences from the grand mean of 0 (in standardized units) were calculated. Such computations assume the standard ANOVA model, where each mother's mean is a function of a grand mean, a culture effect, and error (proportion of error = 1 – effect size). Theoretically, this is consonant with the initial conceptualization of our first hypothesis; that is, for the purposes of the current research, we view individual mothers' behaviors as consist-

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ing of an archetypical maternal behavior (grand mean) plus the effect of a culture manipulation. Of course, this is a simplistic assumption, and useful only to the degree that it provides information regarding the effect of culture. In order to investigate other effects on mothers' behaviors, we would need to manipulate other variables simultaneously controlling for the effect of culture (either statistically or by investigating variation among mothers within a single culture).

Hypothesis 2: Coherence among Parenting Behaviors

Table 4.3 displays Pearson correlation coefficients between pairs of maternal behaviors within and across cultures. The majority of the 15 within-culture correlations were not significant. Therefore, maternal behaviors appear largely independent in different cultures. As hypothesized, for example, object and social encouragement of infant attention were independent in mothers in all three cultures, and maternal speech in the infant register and in adult conversational tones were independent in two of the three cultures.

The five significant correlations occurred among either U.S. or Japanese mothers. Unexpectedly, social stimulation and tactile kinesthetic play covaried positively only in American mothers. As for cross-correlations between maternal stimulation and speech, object stimulation and speech in the infant register covaried positively in mothers in all three cultures, as predicted, but only significantly so among Japanese, and social stimulation and speech in the infant register covaried positively and significantly in American and Japanese, but not French, mothers.

Table 4.4 displays Pearson correlations among maternal responsive behaviors. As hypothesized, mothers' object responses were not related to their social responses in any of the three cultures. The hypothesized relation between object and imitative responsiveness did not materialize in any of the cultures.

The number of activities in mothers that covaried overall was small. Clearly, that number itself will vary with the maternal activities actually selected for measurement. Still, the number covarying in the United States and in Japan was greater than that in France. This suggests that any existing covariation among maternal behaviors is in part culturally specific. Such a result is particularly important because researchers often expect that, despite mean differences between groups, within-group covariation will remain similar across groups. Another implication of differences between cultures in covariation is that care must be exercised in generalizing from one culture to another, even when the cultures are relatively similar. Moreover, different cultural groups within a relatively pluralistic country (as the U.S.) may display different patterns of covariation.

Table 4.1 shows that Japanese and American mothers displayed generally higher variation than French mothers. Based on this information alone, it might be expected that French mothers display generally lower covariation than mothers in the other two cultures. Restriction of range attenuates the size of potential correlations (Cohen & Cohen, 1983). However, the fact that a result is expected statistically does not necessarily mean that it is simply a statistical artifact; that is, the result may still reflect a particular reality. Thus, assuming that the three groups of mothers

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TABLE 4.3
Covariation among Selected Maternal Activities in Three Cultures

	U.S.	*France*	*Japan*	*Overall*	*Differences $p < .05$*
Object with Social	.21	.20	.23	.33**	–
Infant register with Conversational tones	−.22	−.21	.55**	−.15	J > US,F
Social with Tactile kinesthetic play	.43*	.15	.35	.41***	–
Object with Infant register	.33	.29	.45*	.47***	–
Social with Infant register	.46*	−.16	.43*	.40***	US,J > F

* < .05 ** < .01 *** < .001

TABLE 4.4
Covariation among Selected Maternal Responsive Behaviors in Three Cultures

	U.S.	*France*	*Japan*	*Overall*	*Differences $p < .05$*
Object with Social	.21	−.15	.32	.32**	J > F
Object with Imitation	−.04	−.04	.25	.07	–

** < .01

are more or less equally representative of their respective cultures, the generally lower variance among French mothers should be a function of the population sampled (rather than an artificial restriction of range).

As can be seen in Tables 4.3 and 4.4, correlations resulting from aggregation across cultures were sometimes different in magnitude, and often in significance, from within-culture correlations. This could happen because aggregating groups results in a greater *n* and, perforce, more power so that equivalent or lower aggregated correlations appear statistically significant, where intra-group correlations are not. This is a positive result of aggregation. However, when mean group differences exist, aggregation can be expected to yield different, and sometimes misleading, covariation patterns from those observed in individual groups. Figure 4.2 displays four of many possible scenarios. These four were chosen in order to illustrate the unpredictability of results that can emerge from aggregating heterogeneous groups.

It is also important in this context to note the contrast between comparisons of means and comparisons of covariations. As emerged in the discussion of Hypothesis 1, combining cultural groups in order to compute a grand mean can be informative. Further, it was consistent with our initial hypotheses regarding a culture "manipulation." However, there may be cases where combining cultural groups can be misleading. Here, combining cultural groups for the purpose of exploring covariation appears to distort findings.

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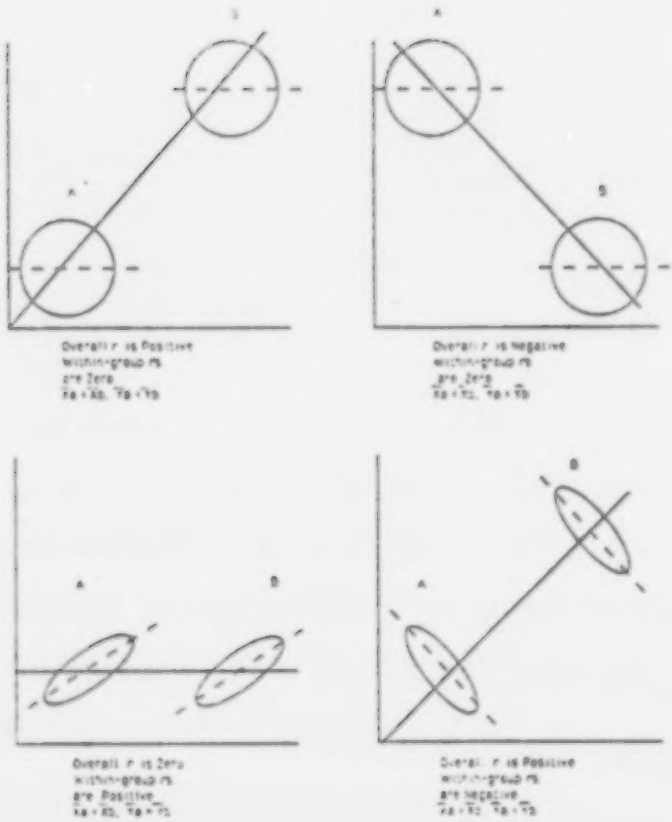

Figure 4.2. Effects of aggregating heterogeneous groups (A and B) on covariation: Four instructive scenarios.

RECAP

The purpose of this study was to compare and contrast maternal behaviors in two Western and one Eastern culture in order to understand better how patterns of parenting might be similar or vary cross-culturally. It is important to note that the samples we observed in these countries are comparatively restricted in terms of sociodemographic level, urban location, and educational history. This restriction actually aided the comparison we undertook, since the three samples are similar on these variables. However, this restriction and others have clear implications for the generalizability of the findings. First, different results could emerge in mothers coming from other regions of the SES scale, from less metropolitan environments,

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or from less educated families. Moreover, we concentrated on a small and selected number of activities; analyses of other activities in mothers may give rise to similar or different patterns of findings. Also, our results might apply uniquely to the open style of interaction we studied, but not to other more constrained situations. Discontinuities characterize infant development in the first year of life (e.g., Emde et al., 1976; Fischer, 1980); if our observation time had straddled a period of reorganization in infancy, presumably other patterns of results might have emerged. Nonetheless, the activities we defined appear to be common in mothers in these countries, and we observed considerable individual variation in them within cultures.

The findings point to several areas of cultural similarity and difference in maternal approaches to parenting, and submit to cross-cultural evaluation the universality versus particularity of certain parenting processes. With respect to the frequency data, mothers in these different cultures were mostly unalike in the degree to which they stimulated and spoke to their infants and responded to their infants vis-à-vis the object and social worlds. However, mothers in these different cultures were mostly alike in terms of how much they engaged their infants in tactile kinesthetic play and in responding nurturantly and imitatively. In general, too, mothers in the three cultures produced similar patterns of independence among their activities (see, too, Sigman & Wachs, in this volume). In the United States, in France, and in Japan, only a minority of mothers' activities positively covaried, even if the degree of relatedness among activities sometimes varied. That is, mothers who do more of one activity do not necessarily or automatically do more or less of others. The finding of independence among maternal activities in such disparate cultural settings casts into doubt a unitary or monistic view of parenting. Although some activities covary, mothers in different cultures were typically observed to engage in patterns of individualized and differentiated parenting.

SOURCES OF VARIATION IN CULTURAL APPROACHES TO PARENTING

What are the prominent sources of similarity and difference in the expression of maternal activities? Since parenting behaviors were observed in the context of mother–infant interaction, systematic influences could arise if mothers in these cultures spent different amounts of the observation period in the company of their infants or if infants were in different states of alertness. Similarly, the behavior of infants could be responsible, at least in part, for differences in mothers' responsiveness. Statistical comparisons controlled for the total duration of the session mothers spent with their babies; further, the times mothers and babies were observed were selected to provide for an optimal assessment of dyadic interaction in terms of the babies' state, and babies in the three cultures were observed to be in equivalent and high states of alertness throughout the course of the observation. Further, effects of infant activity on maternal responsiveness were eliminated through our use of proportions.

Thus, variation and covariation in parenting among mothers in these three cultures cannot be ascribed to maternal availability or infant state or behavior. Nor, can the variation and covariation readily be ascribed to differences among strictly maternal variables. We attempted to "equate" mothers who participated in these studies on factors like age, parity, SES, as well as years of education. Mothers were the same age, and they were all primiparous with babies the same age. Of course, socioeconomic class may not indicate exactly similar standings in the United States, France, and Japan, or necessarily within ary country. Further, even though the Japanese educational system is modeled on the American and the two show rough comparability with the French, what curricula these mothers followed in school and more particularly what they learned (in and out of school) obviously also vary considerably.

There are at least three general ways in which cultures might be "equated" with respect to the conduct of investigations such as this one. One consists of matching groups with regard to their relative standing within each group's respective culture (e.g., $50,000/year income in one country is the same percentile ranking as $4,000/year in another country). A second refers to actual equality, that is matching groups on observable measures (e.g., same number of rooms in the home owned in each of two countries). A third method requires equating groups in different cultures on key latent, rather than observed, variables (e.g., 13 years of education in one country is equivalent, with respect to childrearing practices, to 10 years of education in another country). Each of these methods presents some difficulty. Equating relative standing in very different cultures (e.g., industrialized versus developing nations) may result in groups that are, in reality, markedly different. Literal equality across cultures assumes that observable variables relate to latent variables in the same way in different cultures (e.g., 12 years of education in two cultures have identical implications for childrearing practices). In order to equate groups on latent variables, additional study is required. Although these difficulties exist in any cross-cultural comparison, they are greatly reduced when societies that possess roughly equivalent standards of living are compared, as here among the United States, France, and Japan. In such cases, observed variables in different cultures (e.g., years of education) relate similarly, though certainly not identically, to latent variables. In other words, using observable equivalence in similar cultures is akin to combining the second and third methods noted above. Ours is a rough equation on these factors.

With respect to additional sources of variation, it could also be the case that mothers in different cultures hold differing views on being observed. New Yorkers, Parisians, and Tokyo people are normally reticent to invite strangers into the home. Nonetheless, mothers in all three locales volunteered participation, and all expressed interest in the study and cordiality toward the observers. To examine the possibility that entering the home to videotape ongoing maternal behavior would selectively alter activity, we conducted a demonstration control experiment using portions of each of the American and French videotapes. The American—French comparison was selected because it reflected empirically extreme differences. Native French and native Americans rated each French and American mother and

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baby on seven separate dimensions: embarrassment at being filmed, awareness of camera, expression of different emotions, extent of baby/mother orientation to partner, degree of comfort and naturalness, activity level toward infant/mother, and spontaneity. Specifically, two segments were selected from each of the videotapes: The first segment was randomly selected with the only stipulation being that mother and infant appeared together in the tape for the full segment, and the other segment consisted of the first instance in the observation when the mother encouraged her infant to attend to a property, object, or event in the environment. These random and didactically-oriented interaction sequences were presented to raters in random order (except that segments from the same culture, the same infant, the same sex of infant, and the same category of random or didactic activity never occurred more than twice in a row). Raters used a semantic differential, and ratings were submitted to multivariate analysis of variance. One of the seven dimensions, maternal activity toward the infant, served as a manipulation check on the raters. In keeping with expectations, judges rated mothers in didactic interactions as significantly more active toward infants than they were in random conditions ($p = .006$), regardless of the culture of the dyad or the culture of the rater. Analyses of the balance of maternal and infant ratings showed no systematic differences between cultures. Country of rater was not a meaningful factor in the ratings either.

Finally, factors external to childrearing style per se could play a part in shaping activities of mothers with their infants, and some specific ones—prominently urban–rural locale or differing physical layouts of homes in different cultures—could conceivably influence parenting differentially. In several respects, however, this New York City—Paris—Tokyo comparison overcomes these potential shortcomings. These three cities are among the most cosmopolitan metropolitan areas in the world. Moreover, participating families in these three cities lived in comparable apartments in multistory buildings. These considerations tend to diminish the possibility that general location or structural differences in dwellings systematically affected at least these aspects of parenting.

CONCLUSIONS

For new parents, the first months with an infant are thought to constitute a period of adjustment and transformation; for the infant, parents' activities in the same time frame are thought to constitute experiences critical to development. The present study aimed to learn more about the nature of maternal behaviors in the period of the dyad's initial accommodation, early in the infant's first year of life, by examining representative and common interactions of mothers with their infants in several different cultures. Taken together, our results support findings of cross-cultural universals as well as culturally-specific differences in parenting behaviors in American, French, and Japanese mothers.

Having ruled out several sources of variation, we suspect that components of culture to do with parental beliefs and childrearing philosophy might be responsible for varying patterns of maternal behavior toward young infants. Of course, genetic

and ecological factors could still play a part in generating cultural differences. Presumably, universal parenting activities occur automatically in mothers, and mothers are not consciously aware of them; they are "intuitive" (see Papoušek & Papoušek, in this volume). It may even be the case that parenting activities that are culture-specific are intuitive by the time individuals reach parenting age. Our current research concerns itself with unravelling aspects of maternal beliefs, values, and motives particular to each culture as well as those that may be universal across cultures, for it may be the case that these factors mediate between culture and behavior. In follow-up studies, we are interviewing mothers about their goals for their infants, their sense of responsibility and their beliefs about their own role in helping their infants reach those goals, as well as about their understanding of the meaningfulness and role of parenting activities in development. The central tasks that face future comparative multicultural research will be to document individual behavioral differences and mutual influences in infants and their parents, to examine how and why parents in different societies set different social agenda, and to explicate precisely the processes by which parents in different societies succeed at their respective socialization goals. Given both the similarities and, especially, the provocative differences observed among mothers in these three settings, it seems promising also to trace the differential developmental course and predictive validity of differences in parenting that appear already to have emerged early in the first year of life. We are presently doing so in the realms of child cognitive and communicative competencies, as well as social and emotional adjustment.

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